

Cometary Chip 13

Track 17

Images

Aerogel Cell:
From unknown cell

Aerogel Chip:

Track and Grains:

[track 17.jpg](#)
[track 17a.jpg](#)
[track 17c.jpg](#)
[track b.jpg](#)
[heart.jpg](#)

Microtomed samples:

Grain 1:

[Grain_1/17,1_heart_head_slices.pdf](#)

Track History:

Chip 13 was found on the surface of the canister upon opening, and has not been tied to a specific cometary cell. Terminal grain removed by C. Snead. Keystone made from it by Chris Snead, crushed into gold 2/14/06 by L. Keller. The remaining track has not been investigated.

Track Characteristics

Type: Cavity with grains along walls, and one terminal grain.

Length: ~300µm

Terminal grain diameter 10µm

Allocation History

Results

Grain 1

Tomeoka [TEM]: Ca-poor and Ca-rich px (high Cr contents). Fe-Ni sulfides, Fe sulfides. Unusual grain (~300 nm) bearing major amounts of Si, O and Mg and minor amounts of Al, Na and K. Low-Ca pyroxene is variable in Fe/Mg ratio, ranging in composition from Fs_2 to Fs_{13} and from Wo_1 to Wo_5 . It contains very minor, variable amounts of Al, Cr and Mn. High-Ca pyroxene has a range of composition from Fs_{15} to Fs_{19} and from Wo_{34} to Wo_{40} . Olivine is Fe-rich and also variable in Fa content, ranging from Fa_{30} to Fa_{41} . It contains very minor amounts of Mn. Olivine, has a wide compositional range, but which lacks Mg-rich varieties, unlike the closely associated low-Ca pyroxene.

Simon [TEM]: Their slices consist of numerous grains, though a couple of the slices preserve at least part of the heart shape. Most of the material is anhedral shards, but there are some acicular grains (slice 2), and some nice tabular grains, which tend to have a composition of $\text{En}_{95}\text{Wo}_1\text{Fs}_4$. Heart-shaped pyroxene: It is mostly Mg-rich, low-Ca pyroxene. The Wo component ranges from 0 to 24% and $\text{Fe}/(\text{Fe} + \text{Mg})$ from 0.035 to 0.48. There is also a small amount of olivine present. Three analyses so far, all about Fo_{60} .

Data Files: Not available yet